

CENTER FOR HARSH ENVIRONMENT ELECTRONICS

CENTER

The Center for Harsh Environment Electronics (CHEE) was established in 1997 to develop novel, low-cost, easy to manufacture, high performance harsh environment electronics. CHEE's main focus is on electronic devices and circuits for operation in high temperature and harsh operating environments.

TECHNOLOGY

CHEE is focused on the development of harsh environment electronic systems such as gallium arsenide (GaAs)-based electronics that operate at high temperatures, vacuum microelectronics, and microminiature thermionic converters (MTCs) for thermal to electrical energy converters. The Center also provides services in the following areas: prototype development and testing; development of conventional and novel microelectronics and micromachined technologies; development of high temperature electronics, sensors, and systems; development tools to test and evaluate all types of microelectronics devices and systems ranging from memory technologies to flat panel display technologies; and work with industry (especially businesses located in Utah) in supporting their microelectronics and microfabrication technology needs. A new company was established to develop flat panel display technology.

ACCOMPLISHMENTS

The Center has been installing a pilot-line gallium arsenide (and other novel CHEE technologies) circuit fabrication facility that will be fully computer controlled when it comes on line in the near future. The pilot-line will greatly increase the reproducibility and reliability of prototype circuits produced as part of the CHEE's development activity. The evaluation of manufacturing issues for CHEE based electronics will be greatly enhanced by the new pilot-line facility. A highly promising and committed licensee has been identified and is attempting to negotiate with the University of Utah for license rights to selected applications of the CHEE technology suite. CHEE offers the most comprehensive microfabrication capability in the State of Utah and is committed to supporting the microfabrication and electronic testing needs of Utah businesses.

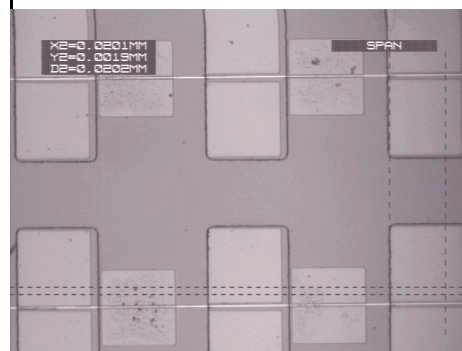
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Can You I imagine...

... electronics that operate at "red hot" temperatures which are highly efficient, high speed, reliable, and can be mass produced at low cost?

THE CENTER EXPLORES ELECTRONIC CIRCUITRY THAT WILL OPERATE RELIABLY IN EXTREME HIGH TEMPERATURE ENVIRONMENTS.



The picture is an array of high temperature gallium arsenide (GaAs) metal emitter field effect transistors (MESFETs).